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(54) **RACETRACK ARRANGEMENT FOR HOLDING SPEED AND/OR SKILL RACES**

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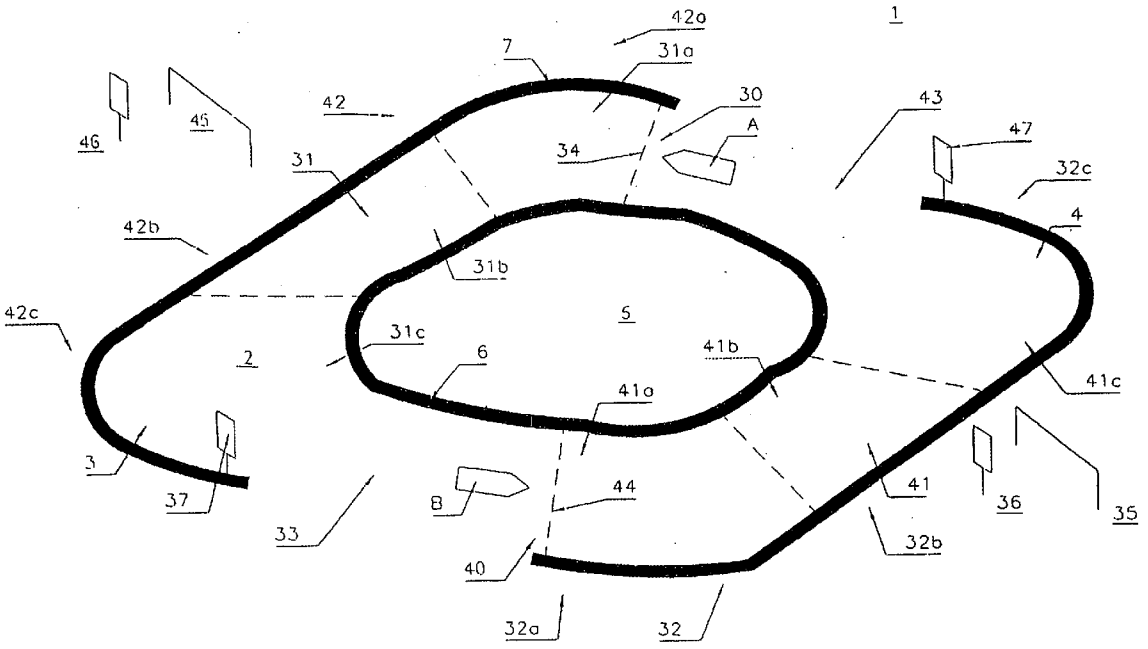
(57) **ABSTRACT**

The invention relates to a racetrack arrangement for holding speed and/or skill races, for comparing the performance of mobile devices powered by human strength or operated by people and for arranging these so that the races provide equal opportunities for the competitors, the danger of accidents is reduced to a minimum and the opportunity for disturbing the competitors is avoided. The racetrack is installed on a site and has a starting point, finishing point and a route leading from the starting point to the finishing point. Furthermore, in a given case, the arrangement is supplemented with information displays serving to inform the competitors and/or protective equipment suitable for protecting the competitors.



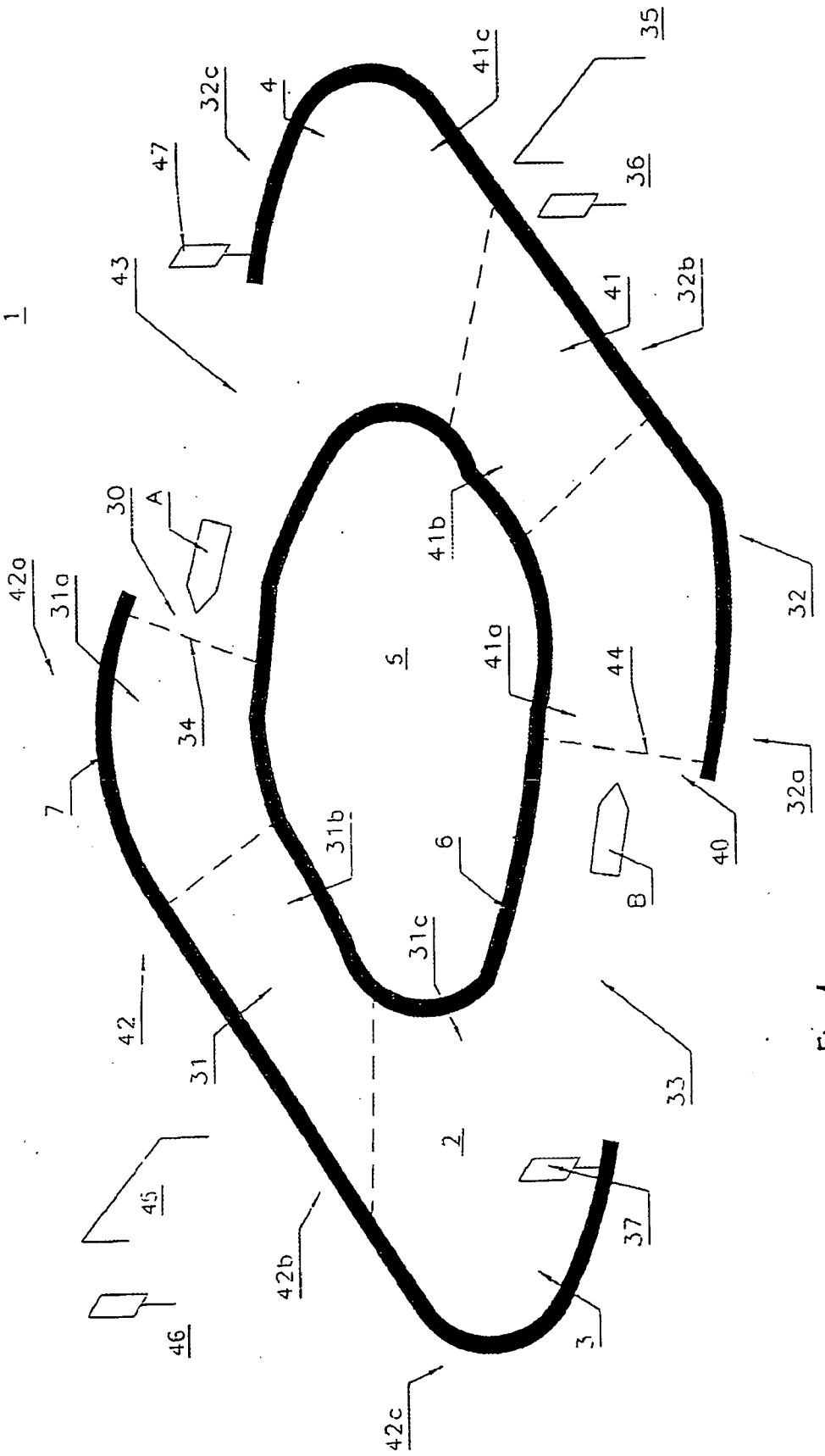

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Fig. 1

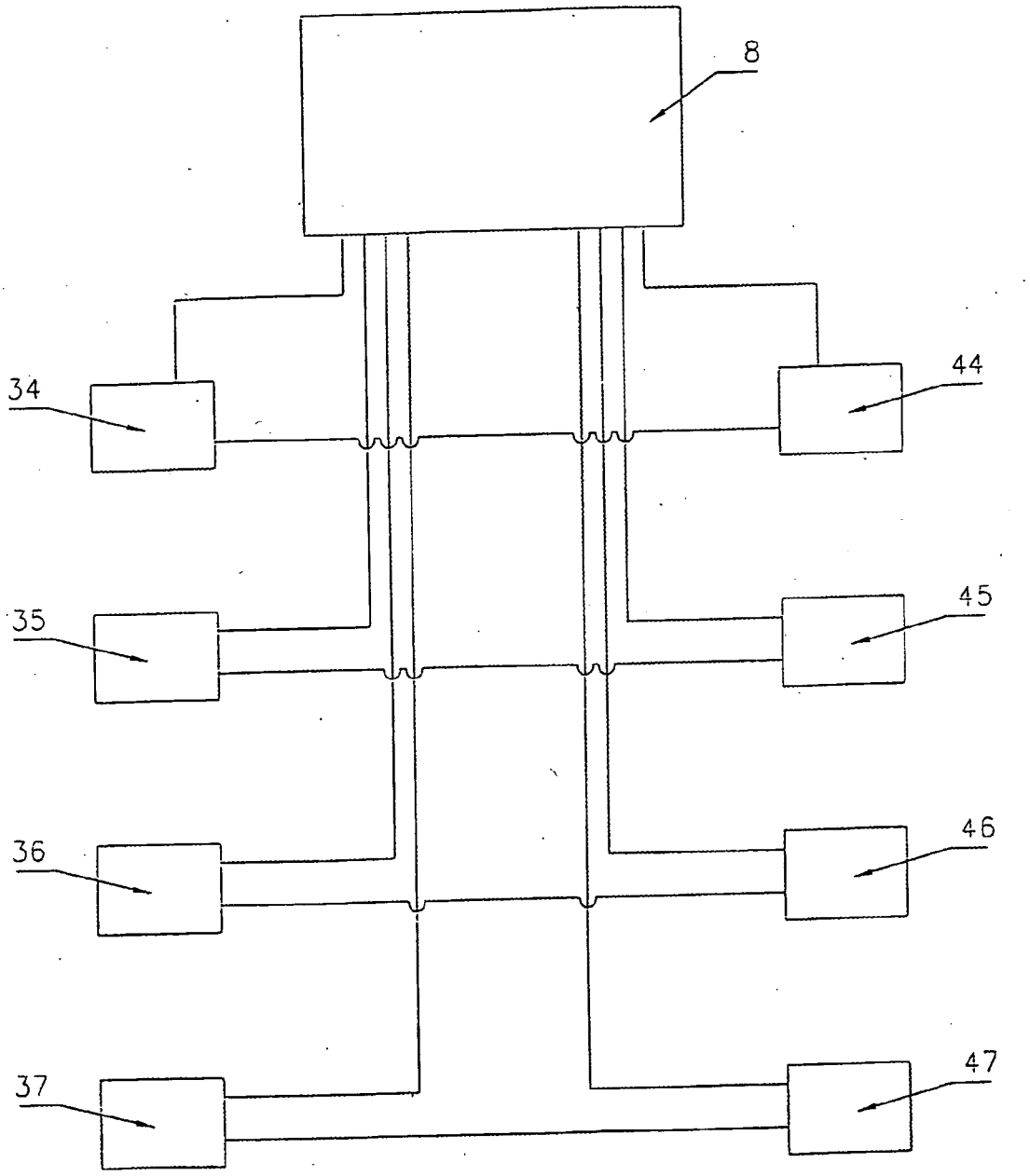

Fig. 2

RACETRACK ARRANGEMENT FOR HOLDING SPEED AND/OR SKILL RACES

FIELD OF INVENTION

[0001] The invention generally relates to racetracks. More particularly, the invention relates to a racetrack for comparing the performance of competition devices powered by human strength or operated by people and for arranging these so that the races provide equal opportunities for the competitors, the danger of accidents is reduced to a minimum and the opportunity for disturbing the competitors is avoided in which arrangement the racetrack is installed on a site.

BACKGROUND OF THE INVENTION

[0002] Games have been one of the most ancient of human activities stretching back to prehistoric times. A special game form includes activities involving more than one person, and within this sub-set, activities where the participants compete against each other. The competitions can be intellectual, physical or a combination of these; they can be played by persons individually or between teams, without using equipment or with it. Among the latter, those competitions form a separate family that is held along a determined route, on a course with a set size and/or geometry. The number of variations is inexhaustible and they are mostly based on the comparison of e.g., speed and/or skill and/or other abilities.

[0003] During the 20th century, also called the age of motorization, motorized competitions (e.g., car and motorcycle competitions) and their sub-branches (e.g., go-cart races) developed to a great degree. Some of these are held under cover and some are held out of doors. It general it is an aim for the competitors to have devices that have as similar technical characteristics and conditions as possible, and for the competitions to be held on courses that have dimensions and shapes that pose as few dangers as possible.

[0004] The theoretically correct endeavor has naturally divided both the competition participants and the method of organization into professional competitions and competitors and those who only treat the driving of special vehicles and the competing as entertainment and a free-time activity. The main aspect for the former is the performance-oriented utilization of the possibilities and for the former as great a degree of safety as possible and with it popularizing is to as great and extent possible.

[0005] Under the aegis of the latter, competition courses are built and operated that are accessible to many people. Some of the first types of these were the electrically operated dodgem courses in so-called funfairs, which were more for entertainment than competing. However, it was from here that internal and external "rentable" go-cart and cross-cart courses were developed, which are theoretically accessible to all.

[0006] The simplest form of competing with devices restricted to a course is the so-caller "summer bob," in which the person seated on the rolling board ("car") is only able to use the incline effect, due to the difference in height between the starting and finishing points, to power the device. It is possible to compare the skill of several persons using a stopwatch. Its advantage is the high degree of safety and its disadvantage is the almost complete lack of competition.

[0007] In order to reduce the danger of collision on internal and external amateur go-cart and cross-cart courses short straight sections on narrow courses and overly tight curves are used with deliberately under-powered vehicles. So the courses offer only a slight experience of competition and speed. Due to the above, the participants regularly disturb and obstruct each other, and usually there is no method for so-called fair overtaking. They regularly force or push each other off the course. The motor and driving characteristics of the theoretically equivalent vehicles significantly differ from vehicle to vehicle in practice. The majority of such courses offer a special experience, but a real competition and equal opportunity is not realized.

[0008] On outside competition courses the vehicles are often high-powered. However, these may only be used while in possession of a special permit, after showing certified skill in advance on vehicles with less power. In this case amateurs cannot start at the same time. Due to this, their performance can only be compared by measuring the time. An example of this is the "A1 SPEED WORLD" racetrack in Austria (Bruck an der Leitha).

[0009] Lack of equal opportunity is also characteristic of internal and external courses designed for amateur use operated with lower but mainly intermediately powered vehicles.

[0010] Such courses may be found in numerous countries. In Hungary worthy of mention are the internal course HUNGAROCART CENTER (Mogyoród, Ipar u.1.) and the external course BUDARING (Budapest, District 11, Budaörsi út, Flóracoop telep).

[0011] There are reputable amateur courses in Germany owned by the MICHAEL SCHUHMACHER KART CENTER (D-50170 Kerpen-Sinndorf), and in the United Kingdom owned by the SPEEDKARTING and RACEWAY enterprises.

SUMMARY OF THE INVENTION

[0012] The aim of the invention is the development of a racecourse arrangement that overcomes the deficiencies of the known facilities and offers realistic competition, increased speed and competitive experience and actual equal opportunity.

[0013] The basis of the inventor's idea was the recognition that as the appropriate structural arrangement of the course safety increases, the use of vehicles that are able to reach higher speeds with high power may be permitted. Besides this, if the width of a significant part of the course is increased, in practice to an extent greater than that necessary, then it is not the performance of the vehicles but the driving skills of the competitors that becomes determinant and comparable. In this way a real competition can be formed; in other words, the set aim may be solved.

[0014] A part of the inventor's idea was also that with more than one competitor starting at the same time, two in the basic case, and with the minimization of "level-type crossing places" the course can provide the opportunity for holding chasing-type competitions where the participants in the competition cannot obstruct or disturb one another.

[0015] In accordance with the set aim, the racetrack arrangement according to the invention is for holding speed

and/or skill races, for comparing the performance of mobile devices powered by human strength or operated by people and for arranging the track so that the races provide equal opportunities for the competitors, the danger of accidents is reduced to a minimum and the opportunity for disturbing the competitors is avoided—in which racetrack arrangement is installed on a site and has a starting point, finishing point and a route leading from the starting point to the finishing point. Furthermore, in a given case the arrangement is supplemented with information displays serving to inform the competitors and/or provide protective equipment suitable for protecting the competitors—set up in such a way that the competition course is divided into at least two largely independent tracks practically supplementing each other. In accordance with various exemplary embodiments of the invention, the tracks are installed around a central area that cannot be accessed by the competitors, or only in a given case, both the first and second track are formed by at least one closed corridor each with physically insurmountable borders on each side and by an open corridor with an insurmountable border, in this case, on only one side of the tracks, there is a transition zone between the closed corridor and the open corridor of the first track and there is also a transition zone between the closed corridor and open corridor of the second track, and the central area, which may be accessed in a given case, is connected to the tracks via the transition zones.

[0016] An arrangement according to various embodiments of the invention include closed corridors that are separated from the central area by the inner bordering structure and from the open corridor by the outer bordering structure.

[0017] The internal bordering structure is arranged along a line that returns to itself, surrounding the central area, e.g., as a fence. In the case of a different construction form, the inner bordering structure is replaced in at least a section in the proximity of the transition zones by visual markings. The inner bordering structure is intermittently surrounded by the outer bordering structure.

[0018] In accordance with one embodiment of the invention, the transition zones are configured such that the first track and the second track cross each other at the same level. In another case, the transition zones are configured such that the first track and the second track cross each other at different levels.

[0019] In a practical realization method of the arrangement installed at the tracks there is a starting device, finishing line, result sign and one or more signaling devices giving instructions to the competitors and/or signaling danger and/or other information. The signaling devices are devices suitable for displaying visual and/or audio information. The result signs, in a given case the start devices and/or signaling devices, are connected to a central unit.

[0020] In accordance with various embodiments of the invention, the first track, its parts and accessories bear a symbol, advantageously include the same color that harmonizes them all.

[0021] Similarly, the second track, its parts and accessories bear a symbol, advantageously the same color that harmonizes them all. The color of the first track and the color of the second track differ significantly from one another.

[0022] In another advantageous construction method, the racetrack includes auxiliary devices that influence the surface quality of the track, for example, wetting or anti-dust devices.

[0023] As compared to earlier solutions, the arrangement according to the invention has numerous advantageous characteristics. Among these, the most important is that it really does unify the advantages of the known solutions, it really does overcome their deficiencies, the large degree of lack of equal opportunity, offer protection against accidents and real competition experience, and in practice, terminates the probability of the competitors disturbing each other.

BRIEF DESCRIPTION OF THE DRAWINGS

[0024] The various features and advantages are hereinafter described in the following detailed description of illustrative embodiments to be read in conjunction with the accompanying drawing figures, wherein like reference numerals are used to identify the same or similar parts in the similar views, and:

[0025] **FIG. 1** is the ground plan drawing of an exemplary construction arrangement; and

[0026] **FIG. 2** is a connection outline drawing of the central unit that harmonizes the operation of the racetrack and the accessories in accordance with the present invention.

DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS

[0027] In **FIG. 1**, we have shown the simplest construction when the racetrack **2** installed on the site **1** has only two tracks. Among them the first track **3** and the second track **4** are both situated around the "no-man's-land" central area **5**, around its outer side, and both of them have a starting point **30** and **40** serving as a starting place for the races.

[0028] The mentioned simplest construction can be seen as a "basic case" that serves two persons or two teams and that can be developed further according to demand. In the further developed versions there are, naturally, more tracks and more starting points associated with the tracks. In general it is advantageous if there are an even number of tracks, but exceptions can be made to this.

[0029] So, in the basic case presented in **FIG. 1**, there are two completely identical tracks, first track **3** and second track **4**, available for the vehicles of the two competitors A and B, which tracks are arranged as each other's "mirror image"—actually as each other's antimetric. The racetrack **2** is, in theory, destined for motor-driven devices, but exceptions can be made to this. However, according to the inventor's idea, the competition devices—the structure of which is not the subject of the present application—are to be strictly of the same performance and with the same equipment.

[0030] If, for example, we examine the first track **3** then we see that it consists of two main parts: the closed corridor **31** and the open corridor **32**. At the starting place of the closed corridor **31**, the starting point **30** has a starting device **34**. Corridor **31** is called "closed" because it is separated from the central area **5** by the inner bordering structure **6** and from the site **1** on that side by the outer bordering structure **7** so that the competitor is forced to always remain within the

bordering structure. Within the closed corridor **31** any line may be taken, in other words it is not like a railway track.

[**0031**] In the present construction example, three zones of the closed corridor **31** can be observed: the flat curve **31***a*, the straight section **31***b* and the hairpin bend **31***c*. With the variation of the topography of these sections of the racetrack **2**—the (continuous or varying) width of the closed corridor **31**, the sizes of the radii of the curves, and the length of the sections—the competition conditions, the speeds that can be reached and the time results, etc. may be influenced.

[**0032**] It is obvious, for example, that the length of the straight section **31***b* involves acceleration, the hairpin bend **31***c* braking and skidding, and the competitor progresses along the "designated" line—not shown on the figure (as in theory an infinite number would have to be shown) selected by him/her in the knowledge of the design characteristics.

[**0033**] The finish line **35** may be anywhere along the first track **3**, which must be (or may be) passed the number of times determined by the prevailing competition rules. The starting point **30** naturally may be planned to be in the transition zone **33** or near it, or even, in a given case, in the central area **5**. On leaving the closed corridor **31** the competitor gets to the "outside" via the transition zone **33**, in other words, to the open corridor **32** outside the outer bordering structure **7** of the first track **3**. So competitor A going on the first track **3** continuously "avoids" the outer bordering structure **7**, as he/she travels firstly within it in the closed corridor **31** and secondly outside it in the open corridor **32**.

[**0034**] In the open corridor **32**, the competitor may select a line, not shown, for him/herself with a greater degree of freedom—as only one of the sides is bordered so that it may riot be crossed.

[**0035**] In the case of the open corridor **32**, also the flat curve **32***a*, the straight section **32***b* and the hairpin bend **32***c* may be differentiated from one another. Here also, it is the decision of the driver whether to go along a shorter path more slowly or on a longer path at a greater speed.

[**0036**] In order to avoid the danger of accidents, the open corridor **32** is much more suitable for the competitor who is forced to give up due to a technical fault or some other reason to leave the race and stop on the side of the open corridor **32**, or even leave the racetrack **2** completely. In theory, the open corridor **32** provides the opportunity for the racetrack **2** to be supplemented by a section of track, e.g. loop, starting from any part of the open corridor **32** and returning to it there, whilst maintaining the basic principles.

[**0037**] The second track **4** is the mirror image of the first track **3**, so what was said previously regarding track **3** is also true with respect to the starting point **40** of the second track **4**, its closed corridor **41**, its open corridor **42**, its transition zone **43**, its starting device **44** and finish line **45**, as well as, in a given case, with respect to the supplementary track section connected to the open corridor **42**. So competitor B on the second track **4** going alternately on the closed corridor **41** and then the open corridor **42** also avoids the outer bordering structure **7** in the same way as we mentioned in the case of competitor A. Due to the "mirror image" character of the first track **3** and the second track **4** it turns out that, although they can freely choose the line they take—competitors starting out at the same time from starting points **30** and **40** have strictly the same route available. So the objective of equal opportunity is really realized and it only depends on how the competitors make use of the track.

[**0038**] The transition zones **33** and **43** deserve separate attention. Both competitors use the zones, and this is where, in the given construction example, the first track **3** and the second track **4** cross each other at the same level.

[**0039**] With respect to cases in which the races are carried out and decided in a "tight struggle" in practice, the level crossing does not present a real danger of collision. The reason for this is the already mentioned simultaneous start. In other words when the one competitor (e.g., competitor A) reaches the transition zone **33**, then the other (e.g., competitor B) is going in the transition zone **43** on the other side and vice versa: when competitor A reaches the transition zone **43** competitor B is crossing the transition zone **33**.

[**0040**] If for some reason the race is not so "tight" then the safety **37** and signaling **47** devices inform the competitors of each other's position; in other words, "HIGHWAY CODE" rules appear on the signaling devices **37** and **47** that inform the competitor that is approaching it what to do: e.g.: slow down.

[**0041**] More of the signaling devices **37** and **47** may be positioned along the first track **3** and the second track **4**; however, it is a certain advantage if they are (also) positioned near the transition zones **33** and **43** of the hairpin bends **31***c* and **41***c*.

[**0042**] From the point of view of the people watching the race it is practical if the starting points **35** and **45** are positioned so that they can be seen easily from a distance, e.g. on the straight section **32***b* of the open corridor **32** of the first track **3** and on the straight section **42***b* of the open corridor **42** of the second track **4**. It is worth placing the result signs **36** and **46** before these sections. An advantageous version may also be obtained if the central area **5** contains start-finish corridors connected to the tracks **3**, **4** via the transition zones **33**, **43**.

[**0043**] It is desirous if the signaling devices **37** and **47** emit clear and easily visible signals for both the competitors and the people watching. They should have visual signals, but could also have audible signals as well. It is also possible to provide the competitors with information continuously, automatically or with the intervention of a person (e.g. track marshal activity) from the central unit **8**, in the form of harmonized signals. The continuous information provision does not only have to be for calling attention to danger, but instructions may also be given, e.g. prescribing alternated traveling directions for the competitors, the open or closed corridor to be used, the tasks carried out and those still to be done (e.g. the number of circuits to be completed), etc.

[**0044**] In harmony with the idea of the invention, it is important in order to make the races safe and comprehensible if both the first track **3** and the second track **4** have a symbol system that is characteristic of them but also clearly different from each other, e.g. a color code. All the accessories should be realized strictly within the symbol system, e.g. the starting devices **34**, **44**, the finish lines **35**, **45**, the result signs **36**, **46** and the signaling devices **37**, **47**. In theory it is possible for the differing symbols, e.g. colors, to be assigned to the competitors A and B.

[**0045**] Under the aegis of the maximum endeavor towards equal opportunity, as the characteristically motor-driven competition devices are strictly of the same construction and have the same performance characteristics it may occur that the differences between the body weights of the competitors is equalized—on the basis of the handicap principle used for centuries in horse racing.

[0046] For similar reasons it is worth including on the racetrack **2** accessories—not shown on the figure—that continuously take care of the cleanliness of the course surface and/or other quality factors. In accordance with this embodiment, the accessories may include devices with the help of which the course may be made wet, heated, made rough and with which dust is removed from the surface.

[0047] The theoretical connection outline drawing seen in **FIG. 2** illustrates that the racetrack **2** equipment, the starting devices **34, 44**, the finish lines **35, 45**, the result signs **36, 46** and the signaling devices **37, 47** may be in connection with their "pairs" via the central unit **8** and with the other equipment. As a consequence of this, the operation of the equipment can be harmonized and the races can be easily organized and/or automated. This may be carried out in such a way that the competitors, the organizers and judges (jury), and furthermore, the people watching are informed of all the judgment data and information immediately and continuously.

[0048] The construction example shown on **FIGS. 1 and 2** presents the "basic case" for the competing of two competitors (or two teams). With the complete observance of the presented principles—as we have stated above—it is possible to establish a facility that is suitable to have several competitors (or several teams) compete at the same time.

[0049] In these cases also, completely identical track ground plans, accurate simultaneous starting, safety distances, information provision to the competitors and, in the meanwhile, an exciting and spectacular "struggle" for both the competitors and the people watching can be realized.

[0050] There is also no obstruction to the competition being held on a three dimensional course instead of a two dimensional one, or even not only on the ground (on several levels) but also in other "mediums", e.g., in water or air. Naturally for this suitable watercraft or aircraft need to be arranged.

[0051] The racetrack arrangement according to the invention may be applied in all cases where with—characteristically motorized—vehicles, with the maximum observance of safety and equal opportunity, exciting competition and an increased experience of competing is needed.

1. A racetrack arrangement for holding speed and/or skill races, for comparing the performance of competition devices powered by human strength or operated by people and for arranging these so that the races provide equal opportunities for the competitors, the danger of accidents is reduced to a minimum and the opportunity for disturbing the competitors is avoided in which arrangement the racetrack is installed on a site and has a starting point, finishing point and a route leading from the starting point to the finishing point, furthermore, in a given case it is supplemented with information displays serving to inform the competitors and/or protective equipment suitable for protecting the competitors characterized by the competition course **(2)** is divided into at least two largely independent tracks **(3, 4)** practically supplementing each other per pair, the tracks are installed around a central area **(5)** that can not be accessed by the competitors or only in a given case, both the first and second track **(3, 4)** are formed by at least one closed corridor **(31, 41)** each with physically insurmountable borders on each side and by an open corridor **(32, 42)** with an insurmountable border on only one side, of the tracks **(3, 4)** that belong to each other there is a transition zone **(33)** between the closed corridor **(31)** and the open corridor **(32)** of the first track **(3)** and there is also a transition zone **(43)** between the closed corridor **(41)** and open corridor **(42)** of the second track **(4)**, and the central area **(5)**, which may be accessed in a given case, is connected to the first and second tracks **(3, 4)** via the transition zones **(33, 43)**.

2. The racetrack arrangement according to claim 1, wherein the closed corridors **(31, 41)** are separated from the central area **(5)** by the inner bordering structure **(6)** and from the open corridor **(32, 42)** by the outer bordering structure **(7)**.

3. The racetrack arrangement according to claim 1, wherein the internal bordering structure **(6)** is arranged along a line that returns to itself, surrounding the central area **(5)**, e.g., as a fence.

4. The racetrack arrangement according to claim 1, wherein the inner bordering structure **(6)** is replaced in at least a section in the proximity of the transition zones **(33, 43)** by visual markings.

5. The racetrack arrangement according to claim 1, wherein the inner bordering structure **(6)** is intermittently surrounded by the outer bordering structure **(7)**.

6. The racetrack arrangement according to claim 1, wherein the transition zones **(33, 43)** of the first track **(3)** and the second track **(4)** cross each other at the same level.

7. The racetrack arrangement according to claim 1, wherein the transition zones **(33, 43)** of the first track **(3)** and the second track **(4)** cross each other at different levels.

8. The racetrack arrangement according to claim 1, further comprising a starting device **(34, 44)**, of finishing line **(35, 45)**, a result sign **(36, 46)** and one or more signaling devices **(37, 47)** giving instructions to the competitors and/or signaling danger and/or other information installed.

9. The racetrack arrangement according to claim 8, wherein the signaling devices **(37, 47)** are devices suitable for displaying visual and/or audio information.

10. The racetrack arrangement according to claim 8, wherein the result signs **(36, 46)**, the start devices **(34, 44)** and/or signaling devices **(37, 47)** are connected to a central unit **(8)**.

11. The racetrack arrangement according to claim 1, wherein the first track **(3)**, its parts and accessories bear a symbol and comprise the same color.

12. The racetrack arrangement according to claim 1, wherein the second track **(4)**, its parts and accessories bear a symbol and comprise the same color.

13. The racetrack arrangement according to claim 11, wherein the color of the first track **(3)** and the color of the second track **(4)** differ significantly from one another.

14. The racetrack arrangement according to claim 12, wherein the color of the first track **(3)** and the color of the second track **(4)** differ significantly from one another.

15. The racetrack arrangement according to claim 1, wherein the racetrack **(2)** includes auxiliary devices that influence the surface quality of the track.

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